Volume 3. Air Operator Technical Administration

CHAPTER 1. OPERATIONS SPECIFICATIONS

SECTION 4. PART B OPERATIONS SPECIFICATIONS- EN ROUTE AUTHORIZATIONS AND LIMITATIONS

(Refer to Bulletins HBAT 98-06, HBAT 98-13, HBAT 98-33, HBAT 99-02.)

71. PART B OPERATIONS SPECIFICATIONS PARAGRAPHS.

NOTE: The following OpSpec paragraphs designated with a "*" are for the part 142 database only.

***OPSPEC B001. 14 CFR PART 61 APPROVED CURRICULA; OTHER THAN AIRLINE TRANSPORT PILOT--AIRPLANE. GUIDANCE IS FOUND IN ORDER 8700.1.**

***OPSPEC B002. 14 CFR PART 61 AIRLINE TRANSPORT PILOT CERTIFICATE AND ADDED AIRCRAFT TYPE RATING - AIRPLANE. GUIDANCE IS FOUND IN ORDER 8700.1.**

***OPSPEC B003. 14 CFR PART 61 FLIGHT INSTRUCTOR APPROVED CURRICULA. GUIDANCE IS FOUND IN ORDER 8700.1.**

***OPSPEC B004. AIRMAN CERTIFICATION OTHER THAN PILOT. GUIDANCE IS FOUND IN ORDER 8700.1.**

***OPSPEC B006. REMOVAL OF CENTERLINE THRUST LIMITATIONS. GUIDANCE IS FOUND IN ORDER 8700.1.**

***OPSPEC B008. SATELLITE TRAINING CENTERS OPERATIONS AND AUTHORIZATIONS. GUIDANCE IS FOUND IN ORDER 8700.1.**

***OPSPEC B009. REMOTE TRAINING SITES AUTHORIZATIONS. GUIDANCE IS FOUND IN ORDER 8700.1.**

***OPSPEC B011. 14 CFR PART 61 APPROVED CURRICULA; OTHER THAN AIRLINE TRANSPORT PILOT - ROTORCRAFT/ HELICOPTER. GUIDANCE IS FOUND IN ORDER 8700.1.**

***OPSPEC B012. 14 CFR PART 61 AIRLINE TRANSPORT PILOT CERTIFICATE AND ADDED AIRCRAFT TYPE RATING - ROTORCRAFT/ HELICOPTER. GUIDANCE IS FOUND IN ORDER 8700.1.**

OPSPEC B029 - DRIFTDOWN OR FUEL DUMPING.

A. OpSpec B029 is used to authoirze driftdown or fuel dumping procedures used by the part 121 or 135 certificate holder to demonstrate compliance with 14 CFR terrain clearance requirements. The system described or referenced in the OpSpec is used by the certificate holder for its approved driftdown or fuel dumping procedures, limitations, and data.

B. This is the template to use that is referred to in the guidance as the "nonstandard" OpSpec paragraph for this authorization. It is "nonstandard" only because of the addition of free text. It is issued as a "standard" Opspec.

C. See volume 4, chapter 3, section 5, paragraph 1017 for more information.

OPSPEC B030 - IFR NAVIGATION USING GPS/ WAAS RNAV SYSTEMS.

A. OpSpec B030 is issued to those certificate holders identified in Section 1 of SFAR 97 for IFR en route RNAV operations in the State of Alaska and its airspace on published air traffic routes using TSO-C145a/C146a navigation systems as the only means of IFR navigation appropriate for the route to be flown.

B. The OpSpec also authorizes TSO-C145a/C146a WAAS equipment to be used for IFR en route operations at Special Minimum En Route Altitudes (MEA) that are outside the operational service volume of ground-based NAVAIDs if the aircraft operation meets the requirements of section 3 and 4 of SFAR 97.

C. The recent availability of TSO-C145a/C146a WAAS equipment constitutes a significant improvement in GPS area navigation technology by the incorporation of Wide Area Augmentation Systems (WAAS), Fault Detection and

Exclusion (FDE), along with Receiver Autonomous Integrity Monitoring (RAIM). For a complete discussion of the equipment, see 8400.10, volume 4, chapter 1, section 1, paragraph 25, GPS and WAAS Navigation, and volume 4, chapter 1, section 2, paragraph 52, FAA Approval of Wide Area Augmentation Navigation Systems (WAAS).

D. Principal inspectors can access OpSpec B030 in the authomated Operations Specifications Subsystem (OPSS). Required information must be entered to specify the applicable aircraft make, model, and serial number, WAAS manufacturer and model, and the equipment type and class (See Figure 3.1.4.1 below).

FIGURE 3.1.4.1 WAAS EQUIPMENT CLASSES

TSO-C145a/C146a					
EQUIPMENT CLASS	Oceanic and Domestic En Route, Terminal Area Opera-tions, Nonpreci-sion Approach			LNAV/VNAV Approaches	LPV APPROAC HES
WAAS Sensor [TSO-C145a]					
Class 1	yes			no	no
Class 2	yes			yes	no
Class 3	yes			yes	yes
WAAS Navigation Equipment [TSO-C146a] (note 1)					
Class 1	yes			no	no
Class 2	yes			yes	no
Class 3	yes			yes	yes
Class 4 (note 2)	no			no	yes

NOTE 1:WAAS sensor: While the TSO-C145a sensor supports the operations denoted, the integrated navigation system may not support all of these operations. Consult the Approved Flight Manual (AFM), AFM supplement, pilot's guide, etc., for more information.

NOTE 2:Class 4 equipment will typically also be authorized under TSO-C145a Class 3. In that configuration the WAAS equipment will support all phases of flight. The integrated navigation system may not support all of these operations (see NOTE 1).

E. WAAS equipment uses whatever GPS and WAAS satellites are in view and will provide the best available service. If the navigation service does not meet all of the requirements for the phase of flight, the equipment annunciates the "Loss of Integrity" or a RAIM indication. If all GPS guidance is lost, the equipment will revert to dead reckoning and the flightcrew should take appropriate action (e.g., revert to alternate means of navigation, climb into ground NAVAID coverage, request radar services, proceed visually). Special navigation limitations and provisions are included in this OpSpec to ensure that flightcrews have been properly trained, tested, and qualified. Procedures must also be established for flightcrews and dispatchers (when

applicable) to govern operation during periods of degraded navigation capability and/or satellite outages. Additional special conditions included in this paragraph require the certificate holder to use an approved program to predict navigation outages that impact WAAS equipment.

F. Approval of this paragraph requires the aircraft to be equipped with two independent systems capable of supporting the operation. This may be met with:

(1) Dual TSO-C146a Class 1, 2 or 3 equipment, installed in accordance with AC 20-138A; or

(2) At least one flight management system (FMS) that complies with TSO-C115b (installed in accordance with AC 20-130A) and dual TSO-C145a Class 1, 2 or 3 receivers (installed in accordance with AC 20-138A).

G. The navigation system must be fully operational or operated in accordance with an approved MEL. The approved navigation system may only be used to navigate along routes defined by fixes residing in the aircraft navigation system database.

H. POIs are encouraged to use the University of Alaska Anchorage Aviation Technology's Capstone II Training Program for Part 121/135 Operations as a template for approving their certificate holders' GPS/WAAS ground and flight training. The University of Alaska's training program proved to be very successful during the Alaska Regions Capstone Phase I Program. It is recommended that POIs evaluate the carrier's specific system installation to determine if any program modifications are required.

***OPSPEC B031 - TRAINING AGREEMENT AUTHORIZATIONS AND LIMITATIONS. GUIDANCE IS FOUND IN ORDER 8700.1.**

OPSPEC/MSPEC B031 - AREAS OF EN ROUTE OPERATION. (HBAT 95-03 TO BE INCORPORATED). B031 is issued to all part 121, 121/135, 135, and 125 operators (fixed wing and/or rotorcraft).

- Only the lead-in paragraph is issued to those part 135 operators who operate under VFR only. In the OPSS, you will be prompted in the "text tab" to highlight the statement "Load this value only for VFR operation" and then click on "Load Value From Database" button.
- All IFR operators are issued the lead-in paragraph and subparagraphs a through f as prescribed below. You will be prompted in the "text tab" of the OPSS to highlight the statement "Load this value only for IFR operation" and then click on "Load Value From Database" button.
- Subparagraph g should be selected if the certificate holder is authorized to use GPS navigation equipment for IFR Class I navigation.

A. The delimiting phrases, "if issued" or "if that paragraph is issued" is used in the subparagraphs that refer to other OpSpecs that give the specific authorizations (i.e., IFR in Class G Airspace, Class I Navigation, Class II Navigation, etc.). These authorizations must be completed by operations inspectors and coordinated with airworthiness inspectors.

B. Subparagraph b(3), "Operate IFR flights including flights to alternate or diversionary airports in Class G Airspace in accordance with the provisions of paragraphs A014, C064, C080, H113, and/or H121, as applicable, of these operations specifications, if issued" is a provisionary statement dependent upon the issuance of the other aforementioned OpSpecs for authorization to operate in Class G airspace.

C. Subparagraph c reads, "Deviations from routings specified in this paragraph are authorized when necessary due to in-flight emergencies or to avoid potentially hazardous meteorological conditions."

D. Subparagraphs d, e, and f are to be selected for issuance only if they are applicable to the IFR operator.

(1) Subparagraph d reads, "For operations within [U.S.] Class A Airspace, the certificate holder is authorized to conduct Class I navigation under positive radar control with the area navigation or long-range navigation systems specified in OpSpec B035 of these operations specifications, if that paragraph is issued," according to the following guidelines:

(a) OpSpec B035 must also be issued to authorize IFR Class I navigation in U.S. Class A Airspace using area navigation systems, including long-range navigation systems.

(b) Any one or all of the aircraft to be operated under the certificate must be capable of conducting part 121 or 135 operations in excess of FL180

and the airplane(s) has long-range navigation systems installed

OR the aircraft(s) has area navigation systems installed.

(c) An air carrier must have an approved method of "off airway navigation" to depart from established airways. When this capability is lost, the carrier must return to the established airway.

(2) Subparagraph e reads, "The certificate holder is authorized to conduct Class I navigation, including en route IFR operations outside positive radar control, with the area navigation systems specified in OpSpec B034 of these operations specifications, if that paragraph is issued," and is authorized according to the following guidelines:

(a) OpSpec B034 must also be issued to all air carriers conducting Class I navigation in U.S. and foreign

operations who wish to proceed "direct" to a point or destination in or out of controlled airspace.

(b) Any one or all of the aircraft to be operated under the certificate must be authorized IFR Class I navigation using area navigation systems certified in accordance with AC 90-45, Approval of Area Navigation Systems for Use in the U.S. National Airspace System.

(3) Subparagraph f reads, "The certificate holder is authorized to conduct Class II navigation in accordance with OpSpecs B032 and B036 of these operations specifications, if those paragraphs are issued."

(a) Any one or all of the aircraft to be operated under the certificate must be authorized IFR Class II navigation using approved long-range navigation systems (OpSpec B036 issued), in accordance with AC 90-79, Recommended Practices and Procedures for the Use of Electronic Long-Range Navigation.

(b) OpSpec B032, IFR En Route Limitations and Provisions, must be issued to all IFR operators; it does not apply if the operator is VFR only.

(c) This approval may be issued with or without a flight navigator as authorized in OpSpec B047.

E. For en route authorization to use GPS for Class I IFR Navigation, if the existing aircraft avionics installation DOES include RNAV capability, subparagraph g would be selected which reads, "The certificate holder is authorized to use approved GPS navigation equipment as a supplement to ICAO-standard navigation equipment while conducting Class I navigation."

F. OpSpec B050, Areas of Operations, must also be issued.

OPSPEC/MSPEC B032 - EN ROUTE LIMITATIONS AND PROVISIONS. This paragraph is issued to operators who conduct any IFR operations. The second sentence of the lead-in paragraph prohibits IFR operations outside of controlled airspace unless the operator is authorized to conduct such operations by appropriate OpSpecs. In certain situations, OpSpec B032 permits the operator to navigate outside the operational service volume of airways navigation facilities (Class II navigation) without long range navigation equipment. See volume 4. Some of the criteria that must be met when conducting Class II navigation without long range navigation equipment are as follows:

- Navigation is predicated on ICAO standard ground-based NAVAIDs (VOR, VOR/DME, and NDB) (see volume 4)
- A "reliable fix" using ICAO standard NAVAIDs can be obtained at least once each hour
- Navigation is conducted to the degree of accuracy required for air traffic control
- Route of flight is a "great circle" route between the two NAVAIDs

OPSPEC B033 RESERVED. B033 WAS SPLIT INTO NEW OPSPECS C077 AND B051. (HBAT 98-07 TO BE INCORPORATED.)

OPSPEC/MSPEC B034 - IFR CLASS I TERMINAL AND EN ROUTE NAVIGATION USING AREA NAVIGATION SYSTEMS.

A. B034 authorizes an operator to conduct IFR Class I navigation using an area navigation system, as applicable, in the areas authorized in OpSpec/MSpec B050.

(1) The area navigation system must meet the en route performance criteria prescribed by the most recent version of AC 90-45, Approval of Area Navigation Systems for Use In the U.S. National Airspace System. See volume 4, chapter 1, section 3, paragraphs 87B and 89.

(2) A GPS navigation system approved in accordance with TSO 129 or TSO 145/146 may be authorized as a supplement to ICAO standard navigation equipment while conducting Class I navigation.

(3) When the capability exists to revert to conventional dual airborne VOR, VOR/DME, and/or NDB navigation systems, only a single area navigation system needs to be specified. If this capability is not available, dual or redundant (separate and independent) area navigation systems must be specified.

(4) B034 permits the use of a fix obtained from a redundant area navigation system (authorized by B034) to substitute for a required ground-based NAVAID fix when that NAVAID is temporarily out of service.

B. B034 also authorizes an operator to conduct IFR operations in designated European Basic Area Navigation (B-RNAV) and European Precision Area Navigation (P-RNAV) airspace.

(1) The route design determines whether the operation is terminal or en route navigation.

(2) For BRNAV terminal and en route operations, the navigation performance is ±5 nautical miles for 95% of the flight time.

(3) For PRNAV terminal and en route operations, the navigation performance is ±1 nautical miles for 95% of the flight time.

(4) If the RNAV equipment is certified for P-RNAV, it may be authorized for both P-RNAV and B-RNAV terminal and en route operations.

(5) The following documentation provides guidance material in regard to on-board RNAV equipment require-

ments and operational approval for operators of U.S.-registered civil aircraft:

(a) AC 90-96A, Approval of U.S. Operators and Aircraft to Operate Under Instrument Flight Rules (IFR) in European Airspace Designated for Basic Area Navigation (B-RNAV) and Precision Area Navigation (P-RNAV).

(b) Regional Supplementary Procedures contained within International Civil Aviation Organization (ICAO) Doc. 7030/4-EUR, part 1, Rules of the Air, Air Traffic Services and Search and Rescue, require aircraft operating under IFR in designated European P-RNAV airspace to meet a ±1 NM 95 percent accuracy criteria. For B-RNAV, the criteria requirement is ±5 NM 95 percent accuracy.

(c) Functional and performance requirements are contained within JAA TGL-2 /AMJ 20X2 (B-RNAV), JAA TGL-10 (P-RNAV) and FAA AC 90-96A, Appendix 1 (B-RNAV) and Appendix 2 (P-RNAV).

(6) The following documentation should be evaluated by the principal inspectors for authorizing B-RNAV and/or P-RNAV:

(a) Sections of the airplane flight manual (AFM) that document the appropriate approval in accordance with an appropriate FAA AC as detailed in AC 90-96A, Appendix 1, paragraph 1b (1) or Appendix 2, as applicable.

(b) Training and operations manuals that reflect the operating policies of AC 90-96A, Appendix 1, paragraphs 1d, 1e, 2, 3, and 4, and any other operational or airspace requirements that may be established by European authorities.

C. If the operator is unable to determine B-RNAV or P-RNAV equipment eligibility from the AFM, the operator will ask the CHDO to assess the RNAV equipment for B-RNAV or P-RNAV eligibility. The operator should provide the following, as applicable:

B-RNAV (±5NM) Navigation Performance	P-RNAV (±1NM) Navigation Performance
RNAV system make, model and part number	RNAV system make, model and part number
Evidence of meeting ±5 NM accuracy, 95%	Evidence of meeting ±1 NM accuracy, 95%,
Proof the system meets the required functions for B-RNAV operations	Proof the system meets the required functions for P-RNAV operations
Crew operating procedures, bulletins	Crew operating procedures, bulletins
Any other pertinent information	Any other pertinent information

D. If the CHDO is unable to determine equipment eligibility for B-RNAV, it should forward the request and supporting data through appropriate FAA regional divisions to the Flight Standards Service, Flight Technologies and Procedures Division (AFS-400) for review.

E. If the CHDO is unable to determine equipment eligibility for P-RNAV, it should forward the request and supporting data through the appropriate FAA Flight Standards Regional Division to either the appropriate Aircraft Evaluation Group (AEG).

(1) The AEG will verify that the aircraft and RNAV system meet the criteria for P-RNAV.

(2) The AEG will provide written documentation (e.g., amended Flight Standardization Board Report or other official documentation) to verify the eligibility of that equipment.

(3) The written documentation will identify any conditions or limitations necessary (e.g., navigation systems or procedures required, routes, areas, or procedures authorized) when conducting P-RNAV operations.

F. The Principal Operations Inspector (POI) shall coordinate with the PAI to obtain the proper nomenclature of the manufacturer and mode and to ensure that the area navigation system is installed in accordance with approved data and meets the criteria of the most recent version of AC 90-45 and/or AC 90-96A, as applicable. After the principal inspectors determine that the operator is eligible and the navigation equipment is eligible for B-RNAV and/or P-RNAV operations based on the documentation provided by the operator, OpSpec/MSpec B034 may be issued indicating the appropriate authorizations.

(1) The aircraft (make/model) and the manufacturer and model of the area navigation systems authorized for this type of navigation must be listed in Table 1 of OpSpec/MSpec B034.

(2) If B-RNAV (±5NM) and/or P-RNAV (±1NM) are authorized, these can be selected for insertion into column #4 of Table 1. If neither are authorized, select N/A.

OPSPEC/MSPEC B035 - CLASS I NAVIGATION IN THE U.S. CLASS A AIRSPACE USING AREA OR LONG RANGE NAVIGATION SYSTEMS. B035 authorizes an operator to conduct Class I navigation within the U.S. Class A airspace using an area navigation system (including a long range navigation system) which does not meet the en route performance criteria of the most recent version of AC 90-45, Approval of Area Navigation Systems for Use In the U.S. National Airspace System. See volume 4, paragraphs 87B and 89.

A. The area or long range navigation system must be installed in accordance with approved data and operational

in accordance with an approved Minimum Equipment List (MEL).

B. Any system authorized for en route operations in the U.S. under B034 may be authorized for en route operations under B035. The airplanes (make/model) and the manufacturer and model of the area or long range navigation systems authorized for this type of navigation must be listed in B035. Only a single navigational system needs to be specified.

C. Global Positioning System (GPS). (See AC 90-94, Guidelines for Using Global Positioning System Equipment for IFR En Route and Terminal Operations and for Nonprecision Instrument Approaches in the U.S. National Airspace System.)

(1) *General.* GPS IFR operations for en route (oceanic and domestic), terminal, and nonprecision approach phases of flight can be conducted when GPS avionics approved for IFR are installed in the aircraft (certified under TSO-C129 or better). This equipment should be installed in accordance with AC 20-138 and the provisions of the applicable Approved Flight Manual (AFM) or Flight Manual supplement should be met. The required integrity for these operations is provided by Receiver Autonomous Integrity Monitoring (RAIM), or an equivalent method.

(2) *En Route Operations in the NAS.* The aircraft must also have navigational equipment installed and opertional that can receive the ground-based facilities required for the route to the destination airport and any required alternate.

(a) The ground-based facilities necessary for these routes must also be operational. These ground-based systems do not have to be actively used to monitor the GPS avionics unless RAIM failure occurs.

(b) Within the contiguous United States, Alaska, Hawaii, and surrounding coastal waters, this requirment may be met with an operational independent VOR, NDB, TACAN, or LORAN-C receiver in addition to the GPS system for IFR operations.

D. Outside the NAS. It is possible that GPS may not be approved for IFR use in other countries. Pilots and certificate holders should ensure that GPS is authorized by the appropriate sovereign state prior to its use within the state. In Class II navigation, GPS may be used as a LRNS. On those routes requiring two long range navigation systems, a GPS installation with TSO C-129 authorization in Class A1, A2, B1, B2, C1, or C2 may be used to replace or supplement one of the other approved means of LRNS, such as one for integrity monitoring may be used as the LRNS and active monitoring of the alternate equipment is only required when the RAIM capability is lost.

OPSPEC/MSPEC B036 - CLASS II NAVIGATION USING MULTIPLE LONG RANGE NAVIGATION SYSTEMS. (HBAT 98-16A, HBAT 95-03, AND HBAT 00-01 TO BE INCORPORATED). B036 authorizes Class II navigation when long range navigation systems are required due to the inability to obtain a reliable fix at least once each hour from ICAO Standard NAVAIDs. OpSpecs paragraph B047 should be issued when an operator uses a flight navigator for any type of Class II navigation. B036 authorizes the operator to use long range navigation systems and prohibits the use of a flight navigator.

A. In certain areas, long range navigation systems may also be required even though reliable fixes may be obtained more than once each hour. In these areas, traffic density and the navigation accuracy necessary for air traffic control may require the use of long range navigation systems.

(1) Direction and guidance for authorizing Class II navigation is in volume 4, chapter 1, section 4.

(2) When an operator applies for authorization to conduct Class II navigation using long range navigation systems or a flight navigator, validation tests are required. See chapter 9, section 8 of this volume.

(3) B036 prohibits Class II navigation within Central East Pacific Airspace (OpSpec B037), North Pacific Airspace (B038), Operations Within North Atlantic Minimum Navigation Performance Specifications Airspace (OpSpec B039) and areas of magnetic unreliability (OpSpec B040), unless operations in those areas are authorized by issuing the appropriate referenced paragraphs.

(4) Subparagraph B036b(5) permits the use of a fix obtained from a long range navigation system to substitute for a required ground-based NAVAID fix when that NAVAID (an airways navigation facility) is temporarily out of service.

(5) The aircraft (make/model) and the long range navigation systems (manufacturer/model) authorized for Class II navigation must be listed in B036. Dual or redundant (separate and independent) long range navigation systems must be indicated in the list.

(6) There are certain areas where a single, long range navigation system may be authorized (see OpSpec B054). See volume 4.

B. The POI must ensure the operator's long range navigation program incorporates the practices and procedures recommended in the most recent version of AC 90-79, Recommended Practices and Procedures for the Use of Electronic Long-Range Navigation, or the operator has approved procedures equivalent to or exceeding those in AC 90-79 or other applicable ACs. These procedures must be in the operator's manuals and in checklists, as appropriate. Training on the use of long range navigation equipment and procedures must be included in the operator's training curriculums. The operator's MELs and maintenance programs must address the long range navigation

equipment. The POI must coordinate with the PAI to obtain the proper nomenclature of the manufacturer and model and to ensure the long range navigation equipment is installed and maintained in accordance with approved data. See volume 4, paragraph 41.

C. RNP-10 Documentation. FAA Order 8400.12A, Required Navigational Performance 10 (RNP-10) Operational Approval, is a guide to RNP-10 aircraft and operator approval in any airspace where RNP-10 navigation criteria is required.

(1) If an operator requests to deviate from the practices and procedures in Order 8400.12 (current edition), the inspector should forward a request for assistance through the regional Flight Standards division to AFS-400.

(2) The steps in this process should be followed when an operator seeks authority to operate an airplance type/long range navigation system (LRNS) combination in Class II navigation areas where RNP-10 is applied and the operator has not previously received RNP-10 approval for that specific airplane type/LRNS combination. Normally, if an operator has received initial Class II navigation/RNP-10 approval for a specific airplane type/LRNS combination, that operator should not be required to re-apply for approval to conduct Class II navigation/RNP-10 operations on additional routes or areas.

(a) Order 8400.12A, provides guidance on the content of an operato's RNP-10 application. The application should contain the items listed below.

i. Aircraft/Navigation System Group. Airworthiness documents that establish the proposed aircraft/navigation system group, its RNP-10 approval status, and a list of airframes in that group.

ii. Sources of Long Range Navigation (LRN) Systems. Approved or requested RNP-10 time limit for aircraft for which Inertial Navigation Systems (INS) or Inertial Reference Unites (IRU) are the only source of Long Range Navigation (LRN).

iii. RNP-10 Area of Operations. Documentation establishing the RNP-10 area of operations or routes for which the specific aircraft/navigation system is eligible.

iv. Operating Practices and Procedures. Documenation that the operator has adopted operating practices and procedures related to RNP-10 operations.

v. Pilot and Dispatcher Knowledge. Documentation showing that the pilot and, if applicable, dispatcher knowledge of RNP-10 operating practices and procedures have been adopted.

vi. Airworthiness Practices. Documentation that appropriate maintenance practices and procedures have been adopted.

vii. Minimum Equipment List (MEL) updates, if applicable.

viii. Operating History. Operating history that identifies past problems and incidents, if any, and actions taken to correct the situation.

ix. Removal of RNP-10 Operating Authority. Awareness of the necessity to follow up action after navigation error reports, and the potential for removal of RNP-10 operating authority.

(b) *Aircraft Groups and Eligibility:* Aircraft Goups (Fleets of Aircraft), paragraph 11 and Determining Aircraft Eligibility, paragraph 12 of Order 8400.12, as amended.

i. Aircraft Groups (Fleets of Aircraft). In accordance with Order 8400.12, as amended, the operator must show the aircraft/navigation system groups that will be presented for approval of RNP-10 operations and provide a list of airframes that are determined to be in the specific aircraft/navigation system groups to be evaluated.

ii. Determining Aircraft Eligibility. For aircraft navigation systems which have been approved by an aircraft certification authority to RNP-10 or better, the operator must provide appropriate sections of the Airplane Flight Manual (AFM) that address RNP, including any associated time limites for INS and IRU navigation systems.

iii. Aircraft Equipped with Global Positioning Systems (GPS) Approved to Primary Means of Navigation Standards. For aircraft equipped with GPS, where such GPS units are the only systems for long range navigation, the operator must show that it is approved in accordance with Order 8400.12, as amended. An RNP-10 time limit is not applicable.

iv. Multisensor Systems Integrating GPS (with GPS Integrity Provided by Receiver Autonomous Integrity Monitoring (RAIM)). For multisensor systems incorporating GPS, the operator must show that systems are approved and operated in accordance with Order 8400.12, as amended. An RNP-10 time limit is not applicable.

v. GPS Equpage with Other Approved LRNS (e.g., INS or IRU). See Advisory Circular (AC) 90-94, Guidelines for Using GPS Equipment for IFR En Rout and Terminal Operations and for Nonprecision Instrument Approaches, and AC 20-138, Airworthiness Approval of Global Positioning System (GPS) Navigation Equipment for Use as a VFR and IFR Supplemental Navigation System. The operator must show that aircraft equipped with GPS and one or more approved LRNS are installed and operated in accordance with AC 90-94 and AC 20-138. An RNP-10 time limit is not applicable.

vi. Equipage Where INS or IRUs Provide the Only Means of Long Range Navigation. The operator must show that INS or IRU installation is approved in accordance with Order 8400.12, as amended. Unless the operator takes action to extend the approved navigation system time limit and/or plans to update the system en route, a baseline RNP-

10 time limit of 6.2 hours, starting at the time the system was placed in navigation mode, is applicable. See paragraph (d) below, Time Limit Extension, and (c)i.

vii. Aircraft Eligibility Through Data Collection (Eligibility Group 3). For navigation systems not approved under existing criteria, the operator may demonstrate RNP-10 eligibility through data collection in accordance with the processes detailed in appendices 1 or 6 of Order 8400.12, as amended.

(c) *Route Evaluation:* Route Evaluation for RNP-10 Time Limits for Aircraft Equipped with only INSs or IRUs, Order 8400.12, as amended. If restrictions (e.g., INS RNP-10 time limit) apply to navigation systems, the operator must show the routes or areas where it is eligible to operate. The operator can conduct a one-time evaluation of eligibility to fly in an RNP-10 area of operations or on specific RNP-10 routes or may elect to evaluate on a per-flight basis.

i. One-Time Evaluation. For one-time evaluation of a specific RNP-10 area or track system, ASIs should expect the operator to accomplish the following:

- Calculate the longest distance from either departure airports or en route update points (if applicable) to the point at which the aircraft will begin to navigate by reference to VHF Omnidirectional Range State (VOR), Distance Measuring Equipment (DME), Nondirectional Beacon (NDB), or comes under air traffic control (ATC) radar surveillance.
- As detailed in Order 8400.12, as amended, using 75 percent probability winde component, convert this distance to en route time.
- As detailed in Order 8400.12, as amended, if navigation systems are to be updated en route, adjust the base line RNP-10 time limit approved for the specific operator navigation system to account for update accuracy.
  - Subtract .3 hours from the baseline for DME/DME
  - Subtract .5 hours from the baseline for VOR/DME.
  - Subtract 1 hour from the baseline for manual update.
- Compare calculated en route time to the navigation system RNP-10 time limit (adjusted for en route update, if applicable) to determine if the airplane is eligible for the operation.
- If the aircraft navigation system is found eligible for operation on the specific routes evaluated, then the RNP-10 area of operations or routes on which RNP-10 operations can be conducted are established. If the aircraft navigation system is not found eligible for operation on all routes evaluated, then the operato will need to designate routes for which it is eligible or take action to gain approval for an extended RNP-10 time limit. See paragraph (d) below.

ii. Calcualtion of Time Limit for Each Specific Flight, Order 8400.12, as amended. For a per-flight evaluation of eligibility to fly a specific RNP-10 route, follow the steps shown in paragraph (c)i, above, using flight plan winds to determine en route time. If the RNP-10 time limit is exceeded, the flight must be re-routed or delayed.

(d) Time Limit Extension. Obtaining an RNP-10 Time Limit Extension for INS- or IRU-equipped aircraft, Order 8400.12, as amended. An operator can show eligibility for an extended time limit by:

i. Obtaining approval from an appropriate Aircraft Certification Office, or

ii. Conducting operational data collection using the processes established in appendices 1 or 6 of Order 8400.12, as amended.

(e) Maintenance Requirements. The certificate holder must provide documentation that appropriate maintenance practices and procedures have been adopted.

(f) MEL Requirements. In accordance with Order 8400.12, as amended, if applicable, the operator must revise the MEL to address any new operating requirements.

(g) Operations Program. Operations manuals and checkelists in accordance with FAA Order 8400.12, as amended.

i. Part 121, 125, and 135 certificate holders must provide revisions to manuals and checklists to show the adoption of the RNP-10 operating practices and procedures contained in the reference paragraphs and sections listed in this paragraph.

ii. Operations training programs and operating practices and procedures are addressed in Order 8400.12, as amended.

(h) Deviation to RNP-10 Requirements. The administrator may authorize a certificate holder to deviate from the RNP-10 requirements of OpSpec B036 for a specific flight in designated RNP-10 airspace if the Air Traffic Service provider determines that the airplane may be provided appropriate separation and the flight will not interfere with, or impose a burden on other operators. For operations under such authority, the certificate holder shall

not take off for flight in designated RNP-10 airspace, unless the following requirements of subparagraphs b and d of OpSpec B036 are met:

i. If fuel planning is predicated on en route climb to flight levels where RNP-10 is normally required, an appropriate request must be coordinated with the Air Traffic Service provider in advance of the flight.

ii. The appropriate information blocks on the ICAO flight plan filed with the Air Traffic Service provider show that the airplane and/or certificate holder is not approved for RNP-10 as specified in the certificate holder's OpSpec B036.

iii. For these flights, at least one of the navigation system configurations listed below must be installed and operational:

- At least two independent INS
- At least two flight management system/navigation sensor combinations (or equivalent)
- At least two independent approved GPS navigation systems acceptable for primary means of Class II navigation in oceanic and remote areas.
- At least two approved independent LRNS from the list below:
  - Intertial navigation system
  - Flight management system/navigation sensor combination (or equivalent)
  - GPS navigation system approved for Class II navigation in oceanic and remote areas

iv. Anchorage and Tokyo Oceanic NOTAMS, U.S. Government Flight Information Publication (FLIP) supplement for Alaska. Air Traffic Service providers have established procedures to accommodate in RNP-10 airspace a limited number of flights by airplanes and/or operators not approved for RNP-10. The operator should show that it has adopted appropriate policies and practices to enable it to operate unapproved airplanes in RNP-10 airspace in situations such as:

- ferry flights
- flights that do not meet RNP-10 MEL requirements, and
- non-scheduled charter flights using unapproved airplanes

v. Contacts at Tokyo and Anchorage Oceanic Centers and air traffic policy and procedures for such fligths are listed in NOTAMS and/or the Alaska FLIP Supplement and on the FAA RNP website. Part 121, 125, and 135 certificate holders will be expected to comply with the provisions of OpSpec B038 for deviation from RNP-10 requirements.

(i) Application Evaluation. Evaluation of Application, Conditions for Removal of Authorization, and Error Reports, Order 8400.12, as amended. The operator should indicate awareness of the provisions of Order 84001.12, as amended, for operator follow-up action on reported navigation errors and of the potential to remove RNP-10 operating authority.

(j) Validation. Validation Tests and Validation Flights for part 121 and 135 operators, reference Order 8400.10, volume 3, chapter 9. Validation testing requires an evaluation of the operator's programs and documents in accordance with the guidance for RNP-10 approval.

i. General. The following is intended to provide broad guidance for establishing requirements for validation tests and/or validation flights. The POI should consider each application on its own merit and in accordance with 8400.10, volume 3, chapter 9. Consult with the regional Flight Standards Division, as necessary.

ii. Establishing the Necessity for Validation Flights. The following is provided as guidance for ASIs to consider in determining whether or not validation flights are required.

- Operators with previous Class II navigation experiences with the same navigation equipment as that being proposed for RNP-10 approval. Evaluation of the applicant's programs and documents should normally suffice. A validation flight should not normally be required.
- Operators with previous Class II navigation experience navigating with an LRNS other than that being proposed for RNP-10 approval. Evaluation of the applicant's programs and documents is required. A validation flight should normally be required. If conducted in Class I airspace, the validation flight may be conducted in revenue service. If conducted in Class II airspace, it must be non-revenue with the exception that cargo may be carried.
- Operators with no previous Class II navigation experience proposing to operate where RNP-10 is required. Evaluation of the operator's programs and documents is required. A validation flight should be required and should be conducted in Class II airspace. It should be a non-revenue flight with the exception that cargo may be carried.

iii. Conditions for Validation Flights.

- At least one flight should be observed by an FAA ASI
- A demonstration of any required dispatch procedures must be conducted for routes or areas where RNP-10 is required.
- The fligth(s) should be of adequate duration for the pilots to demonstrate knowledge of dispatch requirements, capability to navigate with the system, and to perform the normal and non-normal procedures

(k) OpSpec/MSpec Entries.

i. Required Navigation Performance Type Block. This is the RNP type for which the specific navigation system has been approved. Entry options for this block are:

- RNP-X. Example: RNP-4, RNP-10, etc.
- Per AFM. Example: For B747-400 equipped with FANS-1 package, AFM establishes RNP Type availability based on GPS satellite availability at dispatch.
- NA (not applicable). Example: aircraft not used for RNP operations.

ii. RNP Time Limit Block. This is the RNP-10 or RNP-4 time, if applicable, for which the navigation system has been approved. Entry options are:

- X Hours. Example: 6.3 hours, 10.0 hours.
- UNL (Unlimited). Example: Primary means GPS, approved multisensor system that incorporates GPS.
- NA (not applicable). Example: aircraft/ navigation system no used in RNP operations.

iii. OpSpec B038 Operations in the North Pacific (NOPAC) airspace and OpSpec B037, operations in Central East Pacific (CEP) Airspace, must also be issued.

iv. For RNP 4 operations, an aircraft must meet a cross-track keeping accuracy and along-track positioning accuracy of no greater than $\pm$7.4 km (4 NM) for 95 percent of the flight time.

- Different routes that require RNP-4 may have different separation, equipment, and communications requirements. It is possible in the future that a route or airspace could be established that would require RNP-4 navigation capability with VHF communication and radar. Some examples of routes that require RNP-4 are:
  - Australian Tasman Sea; detailed guidance is contained in Australian Government, Civil Aviation Authority, AC 91U-3(0), Required Navigation Performance 4 (RNP 4) Operational Certificate
  - Easter Russia, the Magadan region; requires FANS 1/A-equiped aircraft
  - Western region of China and north of the Himalayas, Route 888; because of the remoteness of the area, RNP-4 CPDLC, and ADS are required
- Eligibility of aircraft and certification of its navigation equipment for RNP-4 must be determined
  - For RNP-4 operations in oceanic or remote airspace, at least two fully serviceable independent long-range navigation systems (LRNS), with integrity such that the navigation system does not provide misleading information, must be fitted to the aircraft. These will form part of the basis upon which RNP-4 operational approval is granted.
  - For aircraft incorporating GPS, AC 20-138A or equivalent docuemtns provide an accetable means of complying with installation requirements for aircraft that use but do not intergrate the GNSS output with that of other sensors. AC 20-130A describes an acceptable means of compliance for multi-sensor navigation systems that incorporate GPS.
- Flightcrew training and operating procedures for the navigation systems to be used must be identified by the operator.

OPSPEC/MSPEC B037 - OPERATIONS IN CENTRAL EAST PACIFIC (CEP) AIRSPACE. (HBAT 95-03 AND HBAT 00-01 TO BE INCORPORATED). B037 authorizes Class II navigation in the airspace designated as Central East Pacific (CEP) Airspace. The operator must be authorized to conduct Class II navigation in accordance with B036a before B037 can be issued. If the operator is authorized to conduct Class II navigation in compliance with B036a, no additional validation tests need to be accomplished. However, before issuance, the POI must ensure the operator has a program that includes training or briefing of flightcrews on requirements and standards for conduct of flight in CEP airspace. See volume 4 for more information.

OPSPEC/MSPEC B038 - NORTH PACIFIC (NOPAC) OPERATIONS. (HBAT 00-01 TO BE

INCORPORATED.). B038 authorizes Class II navigation conducted in airspace designated as North Pacific (NOPAC) operations airspace. The operator must be authorized to conduct Class II navigation in compliance with B036 before B037 can be issued. Validation tests of the operator's ability to operate in NOPAC airspace are required. (See volume 4.) If the operator is authorized to conduct Class II navigation in compliance with B036, a temporary authorization in the form of a letter may be issued so that the operator may conduct validation tests with revenue passengers. One of the purposes of validation tests for NOPAC operations is to verify the operator's ability to properly use airborne weather radar for monitoring navigational system accuracy to assure avoidance of Soviet airspace. The operator must have manual procedures on the use of airborne weather radar for this purpose. Additionally, if flights are to be conducted at or above FL 280, the operator must have a program which trains or briefs flightcrews on requirements and standards for flight in NOPAC airspace. Use of flight navigators in NOPAC airspace (at or above FL 280) is not authorized. When validation tests are completed, B038 may be issued. For more information on NOPAC airspace see volume 4.

OPSPEC/MSPEC B039 - OPERATIONS WITHIN NORTH ATLANTIC (NAT) MINIMUM NAVIGATION PERFORMANCE SPECIFICATIONS (MNPS) AIRSPACE. (HBAT 95-03 AND HBAT 00-03 TO BE INCORPORATED.)

A. B039 authorizes Class II navigation in the airspace designated as North Atlantic Minimum Navigation Performance Specifications (NAT/MNPS) airspace. The operator must be authorized to conduct Class II navigation in compliance with B036 before B039 can be issued. Validation tests of the operator's ability to operate in NAT/MNPS airspace are required. (See volume 4.) If an operator has not been previously issued B036, or when a new airplane and/or navigation system is being added to B036, validation tests must be conducted to verify the operator's ability to conduct operations in compliance with both B036 and B039. When validation tests are successfully completed, including passing specified NAT/MNPS pass or fail criteria, B039 may be issued. For more information on NAT/MNPS airspace operations, see volume 4.

B. The airplane (make/model) and the long range navigation systems (manufacturer/model) authorized for operations in NAT/MNPS airspace must be listed in B039c. Dual or redundant (separate and independent) long range navigation systems must be indicated in this list.

C. B039 provides for flight operations in NAT/MNPS airspace over special contingency routings with a single, long-range navigation system. (See volume 4.) Usually, all airplanes and navigational system combinations listed in B039 should also be listed in B039, but in a manner that indicates a single long range navigation system authorization. This authorization permits revenue operations while positioning the airplane for repair of a malfunctioning navigational system. Additionally, other aircraft and navigational equipment combinations which may need to be ferried over these routes in nonrevenue operations should be listed. This is necessary because NAT/MNPS authorization is required regardless of revenue considerations. The following are examples of how airplanes and navigational systems authorized for flight over special contingency routings should be listed.

D. Canadian MNPS. Part 135 certificate holders and part 91K program managers that do not have or need Class II (OpSpec B036) authorization but do need authorization to conduct flights in Canadian MNPS, may be issued OpSpec/MSpec B059 in lieu of OpSpec/MSpec B039. See 8400.10, volume 4, chapter 1, section 5, for more information.

OPSPEC/MSPEC B040 - OPERATIONS IN AREAS OF MAGNETIC UNRELIABILITY.

A. B040 authorizes either Class I or Class II navigation in areas of magnetic unreliability. If flight operations in these areas involve Class II navigation requiring long range navigation systems, B036 must also be issued. Validation tests of the operator's ability to conduct flights in areas of magnetic unreliability are required. Except for inertial navigation systems (INS), validation tests of any type of navigational equipment (or a flight navigator) must be nonrevenue. When validation tests are successfully completed B040 may be issued. When an operator requests authorization to conduct operations in areas of magnetic unreliability, the POI shall advise AFS-400 (202 267-8452). AFS-400 will arrange for one of the FAA's navigation specialists to work with the POI to ensure that operations in areas of magnetic unreliability meet appropriate requirements. For more information on flight operations in areas of magnetic unreliability, see volume 4, paragraph 151.

B. The airplane (make/model), the manufacturer and model of the navigational equipment, and the type of navigation (heading reference) to be used must be listed in B040a. When pilot-operated electronic long range navigation systems are authorized, they must be dual or redundant systems. When heading information is obtained from sources which are not inertially referenced, the manufacturer and model of the heading reference system (compasses) must also be specified. The following are examples of how this information should be listed.

AIRCRAFT TYPE (MAKE/MODEL)	NAVIGATION EQUIPMENT (MANUFACTURER/MODEL)	TYPE NAVIGATION	
		EN ROUTE	APPROACH
Doug DC10	Dual Delco Carousel IV INSS	True	True/Mag
Doug DC8	Single Litton LTN-3100 ONS, Dual Bendix PB20 Polar Path Compasses and a flight navigator	Grid	Grid/True
Lkheed 382	Dual Collins ADF 462 and dual King//Bendix KNR-634 VOR's and Dual Bendix PB60 Polar Path Compasses	True/Grid Station Referenced & Pilotage	True/Grid Station Referenced & Pilotage

OPSPEC B041 - NORTH ATLANTIC OPERATION (NAT/OPS) WITH TWO ENGINE AIRPLANES UNDER PART 121.

A. B041 is issued to those part 121 operators who demonstrate the capability and competency to safely conduct operations over the North Atlantic with two-engine airplanes within the 60-minute constraint of 14 CFR § 121.161. This paragraph restricts the authorized area of operation to those portions of the North Atlantic which have a maximum diversion time, from any point along the route of flight, to a diversionary airport of 60 minutes or less at the approved one-engine inoperative cruise speed (under standard conditions in still air). Due to the unique nature of these operations, B041 shall not be issued until review and concurrence is obtained from Regional Flight Standards Division (RFSD) and AFS-400. It is FAA policy and direction that these operations be evaluated and approved on a case-by-case basis. This evaluation must include consideration of the character of the terrain within the proposed area of operation, kind of operation, performance of the airplane to be used, capabilities of the alternate airports en route, and the provisions of B041. This evaluation must also include consideration of the routes of flight, and airports and instrument approaches likely to be used during an en route diversion resulting from an in-flight contingency.

B. Since these operations involve Class II navigation, B036 must also be issued. B039 must be issued if an operation involves flight in (NAT/MNPS) airspace. OpSpec B043 (special fuel reserves) and/or OpSpec B044 must also be issued if an operator is authorized to use the provisions of these paragraphs while conducting operations authorized by B041. OpSpec B050 must authorize operation in the North Atlantic and must specify appropriate reference paragraphs including any restrictions/limitations necessary to accommodate operations of two-engine airplanes in the North Atlantic. Since the operations authorized by B041 are restricted by the 60-minute rule, these operations comply with the basic provisions of 14 CFR part 121, § 121.161. Therefore, a request for deviation from the basic provisions of this rule is not required for this type of operation.

C. Each airplane (make/model) authorized for these operations must be listed in B041. Any special equipment or limitations applicable to operations in the NAT/OPS area, including any prohibition of the operation of certain series of aircraft, must also be listed in B041 for each make and model listed. The following is an example of how each authorized airplane should be listed.

AIRPLANE TYPE MAKE/MODEL	ADDITIONAL SPECIAL EQUIPMENT/LIMITATIONS
Boeing 767	DUAL NDB REQUIRED
Airbus 310	A-310-200 ONLY

OPSPEC B042 - EXTENDED RANGE OPERATIONS WITH TWO ENGINE AIRPLANES UNDER PART 121 (ER-OPS). (Guidance to be updated.) B042 is only issued to part 121 operators who are approved to conduct extended

range operations with two-engine airplanes under a deviation as provided for by § 121.161. An "extended range operation" (ER-OPS) is any operation (with a two-engine airplane) which contains a point along the route of flight where the diversion time to an approved diversionary airport is greater than 60 minutes at the approved one engine inoperative cruise speed (under standard conditions in still air). Due to the unique nature of ER-OPS, B042 shall not be issued unless written concurrence is received from AFS-200. When an operator proposes ER-OPS and/or requests authorization to conduct ER-OPS, principal inspectors must immediately notify AFS-200 through the RFSD. AFS-200 will advise the RFSD and principal inspector on how to proceed with evaluation and approval of the operator proposed ER-OPS proposal.

A. All ER-OPS with maximum diversion times in excess of 75 minutes must be evaluated and approved in accordance with the current version of AC 120-42, Extended Range Operations With Two-Engine Airplanes (ETOPS), and any additional criteria specified by this handbook. As a minimum the following conditions must be met:

(1) The airplane/engine combination to be used must be type design approved for the extended range operation proposed;

(2) The ER-OPS maintenance and the flight operation programs must meet or exceed AC 120-42 criteria; and

(3) Higher headquarters (Region and AFS) must concur with the proposed operation.

B. Extended range operations with maximum diversions times of 75 minutes or less must also be evaluated and approved on a case-by-case basis. Although type design approval is not specifically required for ER-OPS of 75 minutes or less, the airplane's design must be reviewed to identify any special equipment or requirements necessary to safely conduct these operations. Except for ER-OPS in the Western Atlantic and Caribbean Sea, ER-OPS maintenance and flight operations programs for these operations must meet AC 120-42 criteria. Operations in the Western Atlantic and Caribbean Sea are approved on a case-by-case basis considering reliability of the propulsion system, character of the terrain, kind of operation, performance of the airplane to be used, capabilities of the alternate airports en route, and the special provisions for this area in B042. All ER-OPS with diversion times of 75 minutes or less require RFSD and AFS-200 review and concurrence before issuing OpSpecs approval for these operations.

C. B042 can be used to issue a general ER-OPS authorization, a special authorization for the Western Atlantic and Caribbean Sea, or both, as appropriate.

(1) If the operator is authorized ER-OPS but is not authorized to use the special provisions established for the Western Atlantic and Caribbean Sea, the computer will print only the general authorization.

(2) If the operator is authorized to conduct ER-OPS only in the Western Atlantic and Caribbean Sea, the computer will print only this special authorization.

(3) If the certificate holder is authorized to conduct both types of operation, the computer will print both authorizations.

D. General Authorization. Subparagraph B042a is a general authorization and is issued if the operator is to be authorized to conduct any ER-OPS in areas other than the Western Atlantic and the Caribbean Sea. Paragraph D086 requires that airplanes used to conduct these operations be listed by aircraft make/model/series, registration number, and maximum diversion times. Principal Inspectors must coordinate closely to ensure the proper completion of D086. The following is an example of how this information should be listed in table 1 of paragraph D086.

TABLE 1.

AIRPLANE TYPE (MAKE/MODEL/SERIES)	REGISTRATION NUMBERS	MAXIMUM DIVERSION TIME IN MINUTES
Boeing 737 222	N932	120
Boeing 767 222	N601	180
	N602	180
Airbus 310 A310221	N601PA	120
	N602PA	120
Airbus 310 A310300	N630PA	75

E. The approved ER-OPS en route alternate airports must also be specified. Only those airports which meet the en route alternate airport criteria in AC 120-42 can be approved for use in ER-OPS. If the list of en route alternate airports is extensive, the POI may attach a list of these airports, prepared by the operator, to this paragraph. If a list is attached, the words "See attached list" must be entered in B042a(4). The following is an example of how each authorized en route alternate airport should be listed.

ER-OPS EN ROUTE ALTERNATE AIRPORT(S)

KEFLAVIK	BIKF
SONDERSTROM	BIRK
GANDER	CYQX
LAJES	LPLA
SHANNON	EINN
REYKJAVIK	BIRK (B737 ONLY)

F. Special Provisions for Western Atlantic and Caribbean Sea. Subparagraph B042b is a specific authorization and is issued if the operator is authorized to conduct any special ER-OPS (with two-engine airplanes) in the Western Atlantic and Caribbean Sea using a maximum diversion time of 75 minutes or less. The airplanes approved for these operations are listed by airplane make/model and any special equipment/limitations required to assure the airplane is airworthy for these operations. The special equipment/limitations columns should be used to limit the operation to a specific aircraft series, if appropriate. The following is an example of how each authorized airplane is listed.

AIRPLANE TYPE (MAKE/MODEL/SERIES)	SPECIAL EQUIPMENT/LIMITAITONS
Airbus 300	Series A300B4203 Only
Boeing 737	APU Generator Operating
Boeing 767	None
Doug DC9	MAX TOGW 138,000

G. Since these operations are conducted under a deviation to § 121.161, OpSpecs A005 must list § 121.161(a) and reference B042. Since these operations involve Class II navigation, B036 must also be issued. B037 must be issued if the operation involves Central East Pacific (CEP) airspace. B038 must be issued if the operation involves North Pacific (NOPAC) airspace. B039 must be issued if the operation involves North Atlantic Minimum Navigation Performance Specifications (NAT/MNPS) airspace. B040 must be issued if the operation involves areas of magnetic unreliability. OpSpec B043 and/or OpSpec B044 must be issued if the operator is authorized to use these fuel reserves in ER-OPS. If the operation involves transatlantic flight in the North Atlantic, these operations

can also be authorized under B041 if the capabilities of the aircraft permit NAT/OPS under the 60-minute rule.

OPSPEC/MSPEC B043 - SPECIAL FUEL RESERVES IN INTERNATIONAL OPERATIONS.

A. B043 authorizes operators conducting flights under part 121 to use fuel supplies specified in B043 in place of fuel supplies required by 14 CFR part 121, § 121.645. This authorization grants the operator a deviation from certain requirements of § 121.645(b). Therefore, § 121.645(b) and B043 must be listed in OpSpec A005. Fuel supplies required by B043 are essentially the same as those required for domestic operations. However, when a portion of the route requires use of a long range navigation system or flight navigator (aircraft position cannot be reliably fixed by ICAO-standard NAVAIDs), additional international fuel supplies must be loaded on board the airplane. The additional fuel must be equal to the amount of fuel required to fly for a period of 10 percent of the time it takes to fly that portion of the route where a long range navigation system or flight navigator is required. The rationale for the provisions of B043 includes the following:

(1) The additional international fuel supply is required only for that portion of a flight in areas where there is a lack of ICAO-standard NAVAIDs, reliable VHF communications, reliable information on upper air wind patterns, and diversionary airports. Examples of areas lacking these facilities and services include transoceanic areas, Northern Canada, and certain areas in South America, Africa, the Middle East, and Asia.

(2) The additional international fuel supply is not required for flights in areas where there are ICAO-standard NAVAIDs, reliable VHF communications, reliable upper air wind pattern information and nearby diversionary airports. For example, the additional international fuel supply is not required between inter-European cities or for certain routes between U.S. cities and Central and South American cities. In another example, the additional international fuel supply is not required for certain routes between the U.S. and Canada, or Alaska. However, the additional international fuel supply would be required between the U.S. mainland (or Alaska) and Hawaii.

B. When an operator requests authorization to conduct operations using the special fuel reserves described in B043, the POI shall advise AFS-400 (202 267-8452). AFS-400 will arrange for one of the FAA's navigation specialists to work with the POI to ensure the operator's proposed operations with special fuel reserves will meet appropriate requirements. Before issuing B043, the operator must develop procedures which ensure that flightcrews and dispatchers (or flight followers) are made specifically aware of fuel supplies to be used for a particular flight. The procedures must provide for strict in-flight monitoring of fuel consumption and calculation of fuel remaining at the end of flight, especially during the latter stages of flights which are in excess of 2 1/2 hours. These procedures must specifically prohibit use of the provisions of B044 (redispatch or rerelease) when a flight is conducted in accordance with B043. These procedures must be included in the operator's manual. Flight crewmembers and dispatchers (or flight followers) must be trained to use these procedures. When the POI is satisfied that the operator's procedures are adequate and that crewmembers and dispatchers (or flight followers) who will be using the procedures are properly trained, B043 may be issued.

OPSPEC B044 - PLANNED INFLIGHT REDISPATCH OR RERELEASE EN ROUTE.

A. B044 authorizes operators to conduct planned redispatch (PRD) or planned rerelease (PRR) en route operations within the areas of en route operations referenced in B050 of the operator's OpSpecs. PRD operations are conducted by air carriers engaged in flag operations and PRR operations are conducted by air carriers engaged in supplemental operations. PRD/PRR is an operational procedure that can result in increased payload and fuel savings by utilizing a procedure in which a flight is dispatched or released to an initial destination and then at a PRD/PRR point, the flight is redispatched or rereleased to the intended destination. In general, PRD/PRR is used on international flights scheduled for more than 6 hours.

B. Before authorizing this paragraph, the POI must ensure that the operator has PRD/PRR procedures in its manual and that the operator's training program for pilots and dispatchers (or other appropriate operational control personnel) includes training on the use of these procedures. Additional information concerning PRD/PRR is in volume 3, chapter 6 (TBD).

OPSPEC B045 - EXTENDED OVERWATER OPERATIONS USING A SINGLE LONG-RANGE COMMUNICATION SYSTEM.

A. All 14 CFR part 121 operations must be conducted in accordance with 14 CFR part 121, §§ 121.711 and 121.359. All 14 CFR part 125 operations must be conducted in accordance with 14 CFR part 125, § 125.203(e). All 14 CFR part 135 operations must be conducted in accordance with 14 CFR part 135, § 135.151. Each airplane equipped with only one operating high frequency (HF) or satellite link communication system must be capable of monitoring and communicating with air traffic control (ATC) during the flight segment when the airplane is operated beyond the range of ground-based very high frequency (VHF) radio communications equipment.

B. Prior to commencing operations in the extended overwater area approved in B045, the carrier shall enter into and obtain letters of agreement from the appropriate oceanic control areas. Copies of these letters should be maintained

by FAA in the OpSpecs correspondence file.

C. All flights in oceanic airspace conducted with a single functional Long-Range Communication System (SLRCS), over any airway or other approved route, should not normally exceed a two-way VHF communications gap of 30 minutes when operating at the aircraft's normal en route altitude.

D. A request for authorization to operate over a portion of a route that exceeds a 30-minute VHF communications gap may be submitted to the Administrator if the oceanic control center agrees by letter. The certificate holder may request approval for a non-standard OpSpec B045 that meets the requirements of sections 121.351(c), 125.203(e), or 135.165(d), as applicable. The non-standard OpSpec B045 must be requested from the Administrator through the Air Transportation Division, AFS-200 or the General Aviation and Commercial Division, AFS-800, as appropriate.

E. If operations are conducted under part 135 using this OpSpec paragraph, each certificate holder's manual shall contain procedures that ensure that the additional requirements of B045, subparagraph f are met.

F. If the operations are conducted under part 125 using this B045, each certificate holder's manual shall contain procedures that ensure that the additional requirements of B045, subparagraph e are met.

G. The certificate holder's manual shall contain procedures to ensure that the pilot-in-command (PIC) satisfactorily completes a functional check of the SLRCS prior to entering oceanic airspace.

H. The POI shall review the dispatch manual, if appropriate, to ensure the proper procedures have been included.

I. The POI shall review and approve any changes to the training program to ensure that all flightcrews are familiar with the use of this authorization. The POI should ensure that overwater SLRCS has been incorporated and appropriately addressed in the certificate holder's approved training curricula. Part 125 initial and recurrent pilot testing programs should be updated with applicable information from these paragraphs.

J. Coordination with avionics and airworthiness inspectors is required to ensure proper installation of the SLRCS.

K. The MEL should be reviewed to ensure that the deferral of communications equipment does not conflict with this authorization.

L. See Order 8400.10, Volume 4, Chapter 1, Section 6, Paragraph 289.

OPSPEC/MSPEC B046 - OPERATIONS IN REDUCED VERTICAL SEPARATION MINIMUM (RVSM) AIRSPACE.

A. B046 provides general authority for Reduced Vertical Separation Minimum (RVSM) airspace operations. RVSM airspace authorization is applicable to all 14 CFR part 91 operators and 14 CFR part 121, 125, and 135 certificate holders that have been or wish to be authorized to operate on RVSM route systems. RVSM is in effect in the North Atlantic, the Pacific Oceanic Flight Information Regions (FIR) including the Northern Pacific (NOPAC) and Central East Pacific (CEP) Route Systems. RVSM programs enable 1,000-foot vertical separation to be applied between aircraft above FL 290. Part 91, § 91.706, Operation Within Airspace Designed as RVSM Airspace, and part 91, Appendix G, Operations in RVSM Airspace, provide regulatory policy for RVSM programs.

B. The Flight Information Regions (FIR) where RVSM may be implemented are listed in part 91, appendix G. The specific flight levels where RVSM is implemented within each FIR are published in the Aeronautical Information Publication (AIP) and Notices to Airmen (NOTAMS) published by the responsible Air Traffic Service Provider. Each operator that is authorized RVSM operations is responsible for verifying those flight levels before conducting RVSM operations.

C. Relationship between MNPS and RVSM approvals. If the operator intends to operate in MNPS airspace at FL's where RVSM is applied, then approval of both lateral and vertical navigation performance is required. For parts 121, 125 and 135 operators paragraphs B039 (MNPS), B046, and D092 must be issued. If these operators choose to operate in MNPS at FL's where RVSM is NOT applied, then only approval of lateral navigation through issuing paragraph B039 is required.

D. Two items have shown to need specific emphasis in RVSM authorizations:

(1) *Training on the Effect of RVSM on TCAS Operations.* Operators whose aircraft are equipped with TCAS must ensure that pilots are knowledgeable on the effect of RVSM on TCAS operation.

(2) *Wake Turbulence Procedures.* Operators must ensure that pilots are knowledgeable on Lateral Offset Procedures to mitigate the effect of wake turbulence. Air Traffic Service Providers have published procedures to enable pilots to mitigate the effect of wake turbulence in oceanic airspace where RVSM is applied.

E. Verification of Aircraft RVSM Eligibility. Inspectors need to confirm an aircraft's eligibility to conduct RVSM operations. The aircraft engineering and maintenance that are required for an in-service aircraft to be approved for RVSM operations have normally been documented in Service Bulletins and Aircraft Service Changes. These documents have been developed by aircraft manufacturers

and reviewed by the appropriate Aircraft Certification Office prior to distribution. Since the initial implementation of RVSM in March 1997, a number of aircraft manufacturers have incorporated RVSM aircraft equipage and altitude-keeping performance requirements into the certification process for production aircraft. In such cases, Service Bulletins or Aircraft Service Changes should not be required. If questions arise on the RVSM eligibility, inspectors can contact the Aircraft Engineering Division (AIR-100) at (202) 267-9580, or the Flight Technologies and Procedures Division, AFS-400, at (202) 385-4586. For RVSM eligibility of in-production or new-production aircraft, Flight Standards Inspectors should request that the operator provide them with a copy of one of the following documents:

(1) The Airplane Flight Manual (AFM) should contain a statement that the aircraft is eligible for operation in RVSM airspace, **or**

(2) The Type Certificate Data Sheet (TCDS) can specifically describe the avionics configurations and continued airworthiness criteria, or provide reference to FAA-Approved documentation in the form of a written report.

F. The operator should submit the maintenance program and the operations program for approval simultaneously. Evaluation of operations programs should be completed in conjunction with the evaluation of Continued Airworthiness (Maintenance) programs. OpSpec D092, Maintenance Program Authorization for Airplanes Used for Operations in Designated Reduced Vertical Separation must also be issued for RVSM authorization. D092 lists the aircraft that are authorized and maintained in accordance with an approved maintenance program.

G. OpSpec paragraph B046 should be listed in the specific areas of operation listed in OpSpec paragraph B050 when the operator is granted authorization to conduct RVSM operations in those areas. If an operator has RVSM authorization, the POI must ensure that the differences in procedures for a new area of operation are addressed before adding B046 to the new area in B050.

H. For extensive and inclusive guidance and documentation for RVSM authorization go to the RVSM homepage at: www.faa.gov/ats/ato/rvsm1.htm. For other questions, contact the navigation specialists in the Flight Technologies and Procedures Division, AFS-400, at (202) 385-4586.

OPSPEC B047 - CLASS II NAVIGATION USING A FLIGHT NAVIGATOR. B047 authorizes the use of a flight navigator in Class II navigation. Operator requests option that authorizes the use of flight navigators as the primary means of Class II navigation occur infrequently. When an operator requests authorization to use a flight navigator in any of the areas listed in OpSpec B050, the POI shall advise AFS-400 (202 385 4586). AFS-400 will arrange for one of the FAA's navigation specialists to work with the POI to ensure the operator's long range navigation program (including the use of a flight navigator) meets appropriate requirements.

OPSPEC B048 - OPERATIONS IN THE VICINITY OF THE HAWAIIAN ISLANDS. OpSpec B048 contains specific operational limitations and provisions for granting an operator deviation authority to conduct sightseeing and air tour operations in the state of Hawaii below 1,500 feet above the surface. Title 14 of the Code of Federal Regulations (14 CFR) Special Federal Aviation Regulation (SFAR) 71, Special Operating Rules for Air Tour Operators in the State of Hawaii, prescribes the operating rules for airplane and helicopter operators to conduct VFR sightseeing and air tour operations in Hawaii. This authorization cannot be issued to Fractional Ownership Program Managers (Part 91, subpart K).

A. Each operator must have a Federal Aviation Administration (FAA)-approved SFAR-71 Procedures Document that contains a minimum of the following:

(1) A description of specific sites, transition segments, and overwater segments.

(2) The restrictions that apply for operations below 1,000 feet above the surface at specific sites, including height-velocity restrictions and raw terrain descriptions.

(3) An identification of designated areas at specific sites or transition segments suitable for an emergency landing in the event of an engine failure.

(4) A description of the planned entry to and egress from the approved specific sites.

(5) The operator's plan for ensuring that its pilots conducting flights under this authorization will conduct or participate in at least one formal air tour safety meeting each 12 calendar months, beginning from the commencement of air tour operations, to discuss safety issues and procedures that pilots will follow while conducting operations under SFAR-71. This plan should include:

- Provisions for the documentation of each pilot's attendance at the air tour safety meetings that must be retained for a minimum of one year or until the training is repeated, whichever is later.
- The operator's plan for notifying the Honolulu Flight Standards District Office at least 10 days prior to these meetings to give the FAA an opportunity to participate.

B. Each operator must have an FAA-approved SFAR-71

training program that covers at least the following:

(1) The provisions and limitations of SFAR 71 and the operator's FAA-approved SFAR 71 Procedures Document.

(2) Initial training for each pilot, which includes flight instruction by an authorized company instructor over all site-specific locations for operations being conducted under SFAR 71.

(3) Each pilot-in-command will have passed a part 135, section 135.299 line check, which includes a representative SFAR 71 transition segment and site-specific area conducted by the Administrator or company check airman.

(4) All other applicable limitations and provisions contained in OpSpec B048.

C. The Administrator will conduct an initial evaluation of each company flight instructor over all site-specific locations before authorizing the instructor to conduct flight instruction for operations being conducted under SFAR 71.

D. Each pilot using the provisions of this authorization, who is conducting sightseeing operations under section 135.1(c), will be knowledgeable of SFAR 71 and operate in accordance with the provisions and limitations of OpSpec B048. Initially, and thereafter annually, each pilot must satisfactorily complete both knowledge and flight tests administered by an FAA aviation safety inspector qualified to perform this function.

E. The POI has the option of adding additional limitations and provisions for specific Hawaiian islands in subparagraph e without going through the nonstandard paragraph processing. If this feature is not required, the POI must not leave the selection blank but enter **N/A** in place of any additional limitations and provisions.

F. OpSpec B050 must refer to OpSpec B048, as applicable.

G. Because this OpSpec B048 authorizes a deviation to SFAR 71, it must be listed in OpSpec A005. It should be recorded as "SFAR 71 section 6" with the statement in the remarks column: "Ops below 1500 Ft. AGL."

OPSPEC B049 - OPERATIONS IN THE GRAND CANYON NATIONAL PARK SPECIAL FLIGHT RULES AREA.

A. B049 contains specific operational limitations and provisions for granting an air carrier the authority for air tour operations in the Grand Canyon National Park-Special Flight Rules Area (GCNP-SFRA). FAA Order 1380.2A, Las Vegas FSDO GCNP-SFRA Procedures Manual, outlines the procedures for this authorization. This manual may be obtained from the Las Vegas FSDO, Grand Canyon Unit. The Las Vegas FSDO will also provide the POI with a memorandum outlining the process for authorizing air tour operations in the GCNP-SFRA. This authorization cannot be issued to Fractional Ownership Program Managers (Part 91, subpart K).

B. In accordance with 14 CFR part 93, § 93.319(a), no operator may conduct a greater number of commercial air tours per calendar year than the number of *allocations* appearing on the operator's B049, unless excepted by regulation. Each commercial air tour operator operating in the GCNP-SFRA is permitted to operate a certain fixed number of air tours per calendar year.

(1) No operator will receive a greater number of allocations than the number of commercial air tours conducted by the operator in the GCNP-SFRA and reported to the FAA during the period beginning May 1, 1997 and ending April 30, 1998.

(2) Each operator who reported air tours in the GCNP-SFRA receives allocations designated for that operator only.

(3) Operators who reported commercial air tours in the Dragon and/or Zuni Point Corridors receive specific allocations for these corridors. These Dragon and/or Zuni Point Corridor allocations are included as a part of the total allocations designated for each operator, if appropriate.

(4) An operator must use one allocation for each flight that is a commercial air tour, unless excepted by regulation.

(5) An operator may use allocations designated for the Dragon or Zuni Point Corridors outside of those areas but may not use allocations not specifically designated for the Dragon or Zuni Point Corridors within the Dragon and Zuni Point Corridors.

(6) An operator who meets the requirements for commercial SFRA operations and operates in conformance with its GCNP-SFRA OpSpecs is not required to use a commercial air tour allocation for each commercial air tour flight in the GCNP-SFRA if the following conditions are met:

(a) The operator must have executed a written contract with the Hualapai Indian Nation granting the operator a trespass permit and specifying the maximum number of flights to be permitted to land at Grand Canyon West Airport and at other sites located in the vicinity of that airport.

(b) The operator must operate in compliance with that contract.

(c) The operator must have a valid OpSpec B049 that authorizes the operator to conduct the operations specified in the contract with the Hualapai Indian Nation and specifically approves the number of operations that may transit the GCNP-SFRA under this exception.

(7) Operators who have previously conducted commercial air tours in the GCNP-SFRA may continue to do so without an initial allocation if they did not receive an initial allocation in 1999 or 2000 for one of the following reasons:

(a) The operator conducted commercial air tours at or above 14,500 feet Mean Sea Level (MSL) but below 18,000 feet MSL and was not required to report during the base year. The operator does not require an allocation to continue to conduct air tours at those altitudes.

(b) The operator conducted commercial air tours in the area affected by the eastward shift of the SFRA boundaries and was not required to report during the base year. The operator does not require an allocation to continue operating on its specified routes in the area bounded by longitude line 111 degrees 42 minutes west and longitude line 111 degrees 36 minutes west.

C. Commercial Sightseeing Flight Reporting Requirements. In accordance with section 93.325, each operator conducting commercial sightseeing flights within the GCNP-SFRA shall submit in writing within 30 days of the close of each calendar quarter, the total number of commercial air tours conducted within the GCNP-SFRA during that quarter. The quarterly reports must be filed with the Las Vegas FSDO and must contain the following information:

(1) Make and model of aircraft;

(2) Identification number (registration number) for each aircraft;

(3) Departure airport for each segment flown;

(4) Departure date and actual Universal Coordinated Time, as applicable for each segment flown;

(5) Type of operation; and

(6) Route(s) flown.

D. The maximum number of allocations for the Dragon and/or Zuni Point Corridors and the maximum number of total allocations for the GCNP-SFRA must be listed in B049 subparagraph a(2). See the OpSpecs JobAid in the operations specifications subsystem (OPSS) Guidance Subsystem in association with B049 for examples.

(1) The operator may not be authorized to conduct more commercial air tours in the GCNP-SFRA per year than the number of initial allocations authorized in B049, unless permitted by exemption. If an exemption is granted, this number should be altered accordingly in B049 and the exemption listed in OpSpec A005.

(2) The Grand Canyon Unit of the Las Vegas FSDO, (702) 269-1445, shall be the source for this number of authorized commercial air tours for each operator.

E. As appropriate, the operator must comply with the curfew limitations of § 93.317. It reads, "Unless otherwise authorized by the Flight Standards District Office, no person may conduct a commercial Special Flight Rules Area operation in the Dragon and Zuni Corridors during the following flight-free periods:

(1) Summer season (May 1 - September 30) - 6 p.m. to 8 a.m. daily; and

(2) Winter season (October 1 - April 30) - 5 p.m. to 9 a.m. daily."

F. B049 must be referenced in OpSpec B050, as applicable.

OPSPEC/MSPEC B050 - AUTHORIZED AREAS OF EN ROUTE OPERATION, LIMITATIONS, AND PROCEDURES. (HBAT 95-03 TO BE INCORPORATED AND GUIDANCE TO BE UPDATED.)

A. B050/MB050 must specify only those areas of en route operation (or individual routes which have specific limitations or procedures associated with the route) for which the operator is authorized to conduct part 121 or part 135 operations. B050/MB050 must include all areas of en route operation where the operator conducts scheduled operations as well as nonscheduled operations. B050/MB050 prohibits operations in areas not listed. Therefore, it is important to consider those areas where the operator may conduct nonscheduled operations. Standard phraseology describing areas of en route operation for various areas of the world are programmed into the OPSS. This standard phraseology should be used whenever possible. However, for unique situations the POI or operator may develop and enter more appropriate descriptions of the areas of en route operation or individual routes along with any special limitations or procedures.

B. To prepare B050/MB050 for issuance, the POI must accomplish the following:

(1) The first step is to obtain the "list of areas of en route operation." The OPSS guidance subsystem contains detailed information on geographical areas.

(2) The next step is to select the individual areas of en route operation to be authorized.

(a) If more than one area is selected, they must be contiguous. For example, if "the 48 contiguous United States and the District of Columbia" and "the State of Hawaii" are selected and operations are to be authorized

between those areas, an appropriate selection for the Pacific Ocean must also be made.

(b) Certain selections have blank spaces, which when selected must be completed. These selections should normally be used only when the operation is to be limited to certain states, islands, or countries within a larger area of en route operation. For example, an operator certificated in Hawaii may be limited in its operations to only specific islands within a region of the South Pacific ocean, such as Samoa, Tahiti, and Fiji. These types of selections provide two or three blank spaces; however, as many states, islands, or countries as appropriate can be entered.

(c) Other selections include or exclude certain types of airspace or area which have specific operational requirements. The POI must determine whether the operator meets the specific operational requirements before authorizing a selection which includes these types of airspace or areas.

(d) If the standard phraseology for a particular selection is not appropriate, the POI may develop an appropriate description of the area to be authorized. In these cases, the POI can delete the standard phraseology and insert the nonstandard description of the area of en route operation. For instance, the area of operation formerly listed as Soviet Russia is now comprised of a number of individual states or republics, most of which make up the Commonwealth of Independent States (C.I.S.). POIs should consult the documents in the OPSS guidance subsystem for guidance in the preparation of appropriate descriptions when carriers seek approval to operate in affected areas.

(e) Various regulations in parts 121 and 135 refer to the listing of routes or route segments in operations specifications. In today's airspace environment and aviation technology it is not practical or desirable to list each route an operator may need to use. Instead, authorized geographic or airspace areas of en route operation shall be listed in the OpSpecs. However, at times it may be necessary to list individual routes in B050 due to special limitations or procedures associated with the routes. The routes should be described by beginning and ending points such as NAVAIDs (or radial/bearings and distances from NAVAIDs) or geographic coordinates. The route description should also describe the routing between the beginning and ending points with words such as “direct,” “via 270 degree radial,” or other appropriate descriptions. Descriptions of special limitations or procedures for each route must be developed for entry in the “Limitations, Provisions, and Reference Paragraphs” column of B050. Examples of limitations or procedures include MEAs, MAAs, or limitations which specify the type of navigation required such as pilotage or station-referenced. After descriptions of the individual routes and associated limitations or procedures are developed, they must be entered into B050 at an appropriate location. Usually, these routes, limitations. or procedures should be entered directly below the area of en route operation selection within which the individual route is located. If the route transverses more than one area of en route operation, enter the route description directly below the area of en route operation selection in which the major portion of the route is located.

(3) After selecting the areas of en route operation to be authorized and appropriately editing those selections, the “Limitations, Provisions, and Reference Paragraphs” column of B050 must be properly edited. The POI must assure that the appropriate limitations, provisions, and/or reference paragraphs are specified for each area of en route operation selected.

(a) The OPSS will automatically print B031, and B032 as reference paragraphs for each area of en route operation selected regardless of the type of operation. B032 is not applicable for part 135 VFR-only operations; therefore, it must be manually deleted for those types of operations.

(b) In certain areas of en route operation, reference paragraphs are mandatory (MNPS, B039/MB039; NOPAC, B038/MB038; CEP, B037/MB037; and areas of magnetic unreliability, B040MB040). These paragraphs have been preloaded as references in B050/MB050. The POI must not manually delete these mandatory reference paragraphs when the operator is authorized to operate in these areas. The certificate holder must meet the requirements of those authorizations and they must be issued to coincide with B050/MB050.

(c) Other applicable reference paragraphs must be manually added to a specific area of en route operation. These other reference paragraphs either specify a requirement such as long range navigation equipment, or grant a specific authorization, such as use of area navigation equipment for Class I navigation. The POI must determine which reference paragraphs are pertinent to each area of en route operation and enter them in the “Limitations, Provisions, and Reference Paragraphs” column. These other reference paragraphs may include but may not be limited to the following:

- B034/MB034 - Class I Navigation Using Area Navigation Systems. Add B034 when authorized only to areas where Class I navigation can be conducted.
- B035/MB035 - Class I Navigation in the U.S. Class A airspace (formerly PCA - Positive Control Area) using an Area or Long Range Navigation System. When authorized add B035 only for “the 48 contiguous United States and the District of Columbia, and (if applicable) the State of Alaska.”
- B036/MB036 - Class II Navigation Using Long Range Navigation Systems. Add

B036/MB036 to all areas which require long range navigation systems. B036/MB036 must also be added to areas of magnetic unreliability when long range navigation systems or a flight navigator is required for those areas.

- B041 - North Atlantic Operations (NAT/OPS) With Two Engine Airplanes under part 121. Add B041 only when authorized and only to a North Atlantic Ocean area of en route operation selection, items 4a, b, or c on the "list of areas of en route operation." (Not available for Fractional Ownership Program Managers, part 91, subpart K.)
- B042 - Extended Range Operations With Two Engine Airplanes (ER-OPS) under part 121. Add B042 only when authorized and only to authorized ER-OPS areas of en route operations. (Not available for Fractional Ownership Program Managers, part 91, subpart K.)
- B043 - Special Fuel Reserves in International Operations. Add B043 only when authorized and only to areas of en route operation where special international fuel reserves are authorized. When the provisions of B043 are not to be used on certain routes within an area of en route operation, the prohibition for those routes must be specified by special notes.
- B044 - Planned In-flight Redispatch or Rerelease En route. Add B044 only when authorized and only to areas of en route operation where its use is authorized.
- B047 - Conduct Class II Navigation Using a Flight Navigator

(d) The POI should arrange the reference paragraphs in numerical order and insert appropriate punctuation and conjunctions.

(4) After the reference paragraphs are either deleted or added, any special requirement pertinent to an area of en route operation or to a particular aircraft operating within the area must be prepared and added to B050. The recommended method for accomplishing this is the use of notes. Notes should be consecutively and uniquely numbered. The word "Note" and its unique number should be entered in the "Limitation, Provisions, and Reference Paragraphs" column adjacent to each area of en route operation to which the note applies. The word "Note" and its unique number is then repeated in the special requirements blocks provided on the areas of en route operation list. After each note and unique number in the special requirements block, the applicable limitation, provision, or procedure must be described. Alternatively, limitations, procedures, or clarifying language can be inserted directly into the "Limitations, Provisions, and Reference Paragraphs" column adjacent to the applicable area of en route operation. The following illustration is an example of how special requirements can be annotated. For the purpose of illustration, the example presumes an operator authorized to conduct operations under part 121 and 135 with a variety of airplanes and helicopters.

AUTHORIZED AREAS OF EN ROUTE OPERATION	LIMITATIONS, PROVISIONS, AND REFERENCE PARAGRAPHS
The 48 contiguous United States and the district of Columbia	B031, B032, B034, and B035, or MB031, MB032, etc., if applicable Note 1
The States of Texas, New Mexico, and Oklahoma	B031, Note 2: C-402 airplane operations limited to Day VFR only and only within these States.
Canada, excluding Canadian MNPS airspace and the areas of magnetic unreliability as established in the Canadian AIP.	B031, B032, B034, B036, B043, and B044 Note 3
The North Atlantic Ocean, including NAT/MNPS airspace.	B031, B032, B036, B039, B043, and B044 Note 3
Europe and the Mediterranean Sea including Soviet Russia but excluding Albania and East Germany	B031, B032, B034, and B044 Note 3
The Caribbean Sea and the Gulf of Mexico, excluding the Havana FIR/VIR	B031, B032, B035, B036, B043, B044, and B054 Note 1 Note 4
SPECIAL REQUIREMENTS: Note 1 - Provisions of H103 authorized for Bell-206 Helicopter only Note 3 - Only B-747 and DC-10 operations authorized in these areas Note 4 - B-727 Class II navigation operations with a single long-range system is authorized only within this area of en route operation	

(5) It is essential for B050 to be thoroughly coordinated with the operator. This coordination should begin with the preparation of the "list of the areas of en route operation." The POI should work directly with the operator when preparing the list. This is especially important when extensive international operations are involved. After the "list of areas of en route operation" has been completed and selected in the OPSS, a draft of B050 can be printed. The POI must review the draft for comprehensibility and accuracy. The draft should also be coordinated with the operator. Items on the draft which cause a conflict of understanding must be resolved. There must be a clear understanding between the FAA and operator concerning the authorizations, limitations, and provisions of B050. All technical, editorial, and format changes must be entered into the OPSS for final printing, signing, and issuance.

OPSPEC B051 - PART 121 VISUAL FLIGHT RULES LIMITATIONS AND PROVISIONS. (HBAT 98-06 AND HBAT 98-13 TO BE INCORPORATED.)

OPSPEC B052 - NONSTANDARD FOR PART 121 EN ROUTE LIMITATIONS AND PROVISIONS IN REMOTE AREAS. (HBAT 95-03, HBAT 98-06, AND HBAT 98-13 TO BE INCORPORATED.)

OPSPEC B053 – RESERVED.

OPSPEC/MSPEC B054 - CLASS II NAVIGATION USING SINGLE LONG-RANGE NAVIGATION SYSTEM (S-LRNS).

A. B054 provides the authorization for Class II navigation using a single long-range navigation system (S-LRNS). Paragraph MB054 is available in the Part 91K management specifications. A program manager must meet and comply with part 135 regulations and guidance applicable to the SLRN authorization. 14 CFR §§ 121.351, 125.203, and 135.165 now allow part 121, 125, and part 135

operations to be conducted in Class II navigation using S-LRNS in accordance with section 91.511(f) and the following guidance.

B. All Class II navigation operations shall be conducted so the aircraft is continuously navigated to the degree of accuracy established by air traffic control (ATC) for operations in that airspace where applicable requirements are in force. For areas where these accuracy and navigation performance standards have NOT been formally established, the long-range navigation system must be used to continuously navigate the aircraft so that the crosstrack and/or the alongtrack errors will not exceed 25 nautical miles at any point along the flight plan route specified in the ATC clearance.

(1) Before conducting any operations authorized by B054/MB054 the flightcrew must be qualified in accordance with the part 121 or 135 certificate holder's approved training program, as applicable, for the system and procedures being used.

(2) The navigation system shall be operational as required by B039/MB039 (NAT/MNPS) and B040/MB040 (Areas of Magnetic Unreliability), as applicable.

(3) The requirements for long range communications extended over water operations must be met for extended over-water S-LRNS operations. See B045/MB045 for the authorization for extended overwater operations using a single long-range communication system.

(4) At dispatch, at least one of the navigation systems listed below must be installed and operational:

(a) At least one independent inertial navigation system (INS). The INS and Inertial Reference Unit (IRU) systems must be approved in accordance with part 121, Appendix G.

(b) At least one flight management system/navigation sensor combination (or equivalent) where the navigation system must be suitable for the route to be flown. Multisensor systems must be approved in accordance with the guidance contained in Advisory Circular (AC) 20-130A, Airworthiness Approval of Navigation or Flight Management Systems Integrating Multiple Navigation Sensors

(c) At least one independent instrument flight rules (IFR) GPS navigation system approved in accordance with one of the following:

i. The Guidelines for Operational Approval of GPS to Provide the Primary Means of Class II Navigation in Oceanic and Remote Areas of Operation (Advisory Circular (AC) 90-94). These guidelines must be followed with the exception that the Operational Control Restrictions related to Fault Detection and Exclusion (FDE) do not apply. This is because S-LRNS operations in oceanic/remote areas have only been approved on short duration routes with options available to use other navigation aids in the event of LRNS malfunction.

ii. The GPS and AC 90-94 documents allow single GPS units that have Receiver Autonomous Integrity Monitoring (RAIM) capability and are approved for IFR operations to serve as the S-LRNS on oceanic routes where an S-LRNS is allowed.

(5) Prior to entering any airspace requiring the use of a long-range navigation system, the aircraft position shall be accurately fixed using airways navigation facilities or ATC radar. After exiting this airspace, the aircraft position shall be accurately fixed and the long-range navigation system error shall be determined and logged in accordance with the operator's approved procedures.

(a) A long-range navigation system fix may be substituted for a required en route ground facility when that facility is temporarily out of service, provided the approved navigation system has sufficient accuracy to navigate the aircraft to the degree of accuracy required by ATC over that portion of the flight.

(b) *Loss or Malfunction.* Flightcrew procedures must be in place in the event of the loss of the S-LRNS after dispatch. The certificate holder must ensure that the pilots are trained on procedures to continue to navigate and to communicate with ATC in the event of S-LRNS malfunction.

(6) *Required Navigation Performance (RNP) type specified.* Currently, there are no RNP type areas or routes where S-LRNS operations are authorized. Should such routes be authorized in the future, applicable guidance to that effect will be released.

(7) FAA Order 8400.10, volume 4, chapter 1, section 5, Special Areas Where Redundant LRNS Are Not Usually Required, provides additional guidance on areas of operations where the provisions of OpSpec paragraph B054/MB054 may be authorized, (e.g., the Caribbean, the Western Atlantic Route System (WATRS), and the Gulf of Mexico). OpSpec B054/MB054 describes the areas of operations where SLRN can be authorized.

(a) There are certain routes in the NAT/MNPS airspace where aircraft equipped to use standard ICAO navigational aids (NAVAID) are authorized S-LRNS operations. These routes are specified in the International Flight Information Manual. Operations over these routes can be authorized provided the operator shows that the long range navigation system/aircraft combination used and the operational procedures used meets NAT/MNPS requirements (AC 120-33, Operational Approval of Airborne Long-Range Navigation Systems for Flight Within the North Atlantic Minimum Navigation Performance Specifications Airspace).

(b) Other special areas cannot be authorized without the review and concurrence of AFS-200 and one of

the agency's navigation specialists for a nonstandard OpSpecs paragraph.

(c) POIs must review the requirements of B039/MB039 (NAT/MNPS) and B040/MB040 (Areas of Magnetic Unreliability) to determine their applicability for the certificate holder. If applicable, ensure these OpSpecs are also issued.

(d) Authorized areas of operations for en route operations for conducting S-LRNS operations must also be referenced in B050/MB050.

OPSPEC/MSPEC B055 - NORTH POLAR OPERATIONS.

A. B055/MB055 provides for north polar flight operations authorization. Operators are required to gain specific approval to conduct north polar operations (in addition to FAA approval for flight in the area of magnetic unreliability (AMU), OpSpec B040/MB040). The north polar area of operations is defined as that area that lies north of latitude N 78°00' (see OpSpec A002/MB002). OpSpec B050/MB050 must show the specific routes approved for these north polar operations. Management specification MB055 is also available for part 91K authorization. The Fractional Ownership Program Manager must meet the same requirements as the part 121 certificate holder for the North Polar authorization.

B. Fuel-freeze Strategy and Monitoring Requirements for North Polar Operations. The operator may wish to develop a fuel freeze analysis program in lieu of using the standard minimum fuel-freeze temperatures for specific types of fuel used. In such cases, the operator's fuel-freeze analysis and monitoring program for the airplane fuel load must be submitted and acceptable to the FAA. The operator should have procedures established that require coordination between maintenance, dispatch, and assigned flightcrew of the determined fuel freeze temperature of the actual fuel load on board the airplane.

C. Communication Capability. In accordance with § 121.99 (Communications Facilities), the operator must have effective communications capability with dispatch and with ATC for all portions of the flight route. The operator must show the FAA the communications medium(s) that it intends to use to fulfill these requirements in the north polar north area.

(1) The communications medium used must meet FAA regulatory requirements and fulfill policy/procedures established by each Air Traffic Service (ATS) unit providing control on the route of flight. Anchorage Center publishes this information in the US Government Flight Information Publication Supplement for Alaska. Other countries publish ATS policies and procedures in their State Aeronautical Information Publications.

(2) HF Voice has been considered the primary communications medium in the Polar North Area; however, other mediums may be used in accordance with the applicable policy. For example, although HF Voice remains primary for communications with Anchorage Center, in areas where there is satellite coverage, SATCOM voice may be used as a back-up to communicate with ARINC Radio and in non-routine situations to establish direct pilot-controller voice communications.

(3) In areas of satellite coverage, controller-pilot datalink communications (CPDLC) may be used for ATC communications provided the ATS unit has an approved capability. In addition, provided the capability is approved, HF Datalink may also be used to fulfill communications requirements with ATS units having the capability and with airline dispatch.

(4) It is recognized that SATCOM may not be available for short periods during flight over the North Pole, particularly when operating on designated polar routes 1 and 2 (see 8400.10, vol. 4, chapter 1, section 4). Communication capability with HF radios may also be affected during periods of solar flare activity. The operator must take into consideration for each dispatched polar flight, the predicted solar flare activity and its effect on communication capability.

D. Minimum Equipment List. The operator will amend their MEL for the items that must be operational for north polar operations. For ETOPS flights, all MEL restrictions for 180-minute operations shall be applicable. Prior to receiving FAA authority to conduct north polar operations, the operator will be required to amend its MEL for the following systems/equipment to indicate that they are required for north polar operations dispatch:

(1) Fuel quantity indicating system (FQIS) (to include fuel tank temperature indicating system);

(2) Auxiliary power unit (APU) - for two-engine airplanes (including electrical and pneumatic supply to its designed capability);

(3) Autothrottle system;

(4) Autopilot; and

(5) Communication system(s) relied on by the flightcrew to satisfy the requirement for effective communication capability.

E. Training. The following requirements must be addressed in the approved training program (part 125 certificate holders are not required to have an approved training program):

(1) QFE/QNH (airport altitude settings) [See AC 91-70, Oceanic Operations] and meter/feet issues are required for flightcrew and dispatcher training. See Advisory Circular (AC) 120-29, Criteria for Approving Category I and Category II Landing Minima for FAR 121 Operators, as amended, for information in regards to cold temperature effects on altimeters.

(2) Training requirements for fuel freeze strategy and monitoring requirements. Maintenance, dispatch, and flightcrew training (special curriculum segments).

(3) General route-specific training on weather patterns and aircraft system limitations.

(4) For diversion decision-making, the roles and responsibilities must be addresses for providing airplane systems capability information to dispatch and flightcrew in order to aid the PIC.

(5) Flightcrew training in the use of the cold weather anti-exposure suit.

F. Long-range Flightcrew Requirements. The following long-range flightcrew issues need to be addressed by the operator:

(1) Rest plan submitted to the POI for review and approval.

(2) Multicrew flight proficiency issue needs to be addressed in the training program.

(3) The progression of the delegated PIC authority as designated by the operator. This does not mean that there can be more than one PIC on a flight who is responsible for the safe operation of the flight under 14 CFR part 121, §§ 121.535, 121.537, and ICAO Annex 6, Part 1, Chapter 1, Definitions, and Chapter 4, Flight Operations, section 4.5.1.

G. Dispatch and Crewmember Considerations During Solar Flare Activity. The operator must be aware of the content of AC 120-52, Radiation Exposure of Air Carrier Crewmembers, and provide crewmember training as stated in AC 120-61, Crewmember Training on In-Flight Radiation Exposure.

H. Additional Required Equipment for North Polar Operations.

(1) Except for all cargo operations, expanded medical kit to include automated external defibrillators (AED) (See AC 91.21-1A, Use of Portable Electronic Devices Aboard Aircraft).

(2) A minimum of two cold weather anti-exposure suits will be required to be on board the aircraft so that outside coordination at a diversion airport with extreme climatic conditions can be accomplished safely.

I. En Route Polar Diversion Alternate Airport Requirements. Operators are expected to give definition to a sufficient set of alternate airports for polar diversions, such that one or more can be reasonably expected to be available in varying weather conditions (AC 120-42A provides additional guidance for two-engine airplanes). The flight must be able to make a safe landing, and the airplane maneuvered off of the runway at the selected diversion airport. In the event of a disabled airplane following landing, the capability to move the disabled airplane must exist so as not to block the operation of any recovery airplane. In addition, those airports designated for use must be capable of protecting the safety of all personnel by being able to:

(1) Offload the passengers and flightcrew in a safe manner during possible adverse weather conditions;

(2) Provide for the physiological needs of the passengers and flightcrew for the duration until safe evacuation; and

(3) Be able to safely extract passengers and flightcrew as soon as possible (execution and completion of the recovery is expected within 12 to 48 hours following diversion).

J. Recovery Plan for Passengers at Polar Diversion Alternate Airports. All operators conducting polar operations must submit to the FAA a recovery plan that will be initiated in the event of an unplanned diversion. The recovery plan should address the care and safety of passengers and flightcrew at the approved emergency airport, and include the plan of operation to extract the passengers and flightcrew from that airport.

(1) The operator should be able to demonstrate its ability to launch and conduct the recovery plan on its initial application for north polar route approval.

(2) The operator must maintain the accuracy and completeness of its recovery plan and diversion airport database at least annually.

K. Validation Requirements for Area Approval for Polar Operations. The operator will be required to conduct an FAA-observed validation flight in order to receive authorization to conduct polar operations. As part of the validation, the operator will be required to exercise its reaction and recovery plan in the event of a diversion to one of its designated en route alternate airports. Adequate and timely coordination must be made so that the FAA coordination necessary to have an FAA inspector in place at the selected emergency airport can be made.

(1) The inspector will witness the effectiveness and adequacy of:

(a) Communications;

(b) Coordination;

(c) Facilities;

(d) Accuracy of NOTAM and weather information; and

(e) Operability of ground equipment during the simulated diversion.

(2) The exercise of the operator's reaction and recovery plan may be completed prior to the validation flight.

(3) AFS-200 will give favorable consideration to a request by the operator, through the POI, to conduct the validation flight in a passenger revenue status only if the operator's reaction and recovery plan has been previously demonstrated to the satisfaction of FAA.

(4) If the operator elects to demonstrate its reaction and recovery plan as part of and during the validation flight, the flight cannot be conducted in a passenger revenue status. The carriage of cargo revenue is permissible in this case, and is encouraged, for airplane weight and balance purpose.

L. Program Tracking and Reporting Subsystem (PTRS) Requirements. Upon completion complete a PTRS Data Sheet, FAA Form 8000-36, and enter the appropriate PTRS activity code 1326 (Operation Specifications-Original) or 1327 (Operations Specifications-Revision) and, if required, 1314 (Observe Route Proving flights) to document your action. Place OPSPBO55 in the National Use field of the transmittal record. Significant comments (if any) should be annotated in Section IV of the PTRS form.

OPSPEC B057 - NATIONAL PARKS AIR TOUR MANAGEMENT OPERATIONS UNDER 14 CFR PART 136.

A. OpSpec B057 gives Interim Authority (IOA) to permit certificate holders and part 91 air tour operators to continue to conduct air tour operations over the identified national park units and abutting tribal lands listed in its Table 1, for up to 180 days after the finalized Air Tour Management Plan (ATMP). At the end of the 180 days, the OpSpecs will need to be re-issued, if there are any limitations set forth in the final ATMP.

B. These operations are conducted as commercial air tour operations in accordance with 14 CFR part 136, the applicable operating part, and the limitations and provisions of OpSpec B057.

OPSPEC/MSPEC B059 - CANADIAN MNPS.

A. For the part 135 certificate holders or part 91K program managers, the Candadian MNPS airspace approvals may be granted by issuance of B059 only and adding that area of en route operations to Opspec/MSpec B050. B059 must be referenced appropriately in B050. If NAT/MNPS authorization is applicable, B039 would also be issued.

B. See Order 8400.10, volume 4, chapter 1, section 5, for details to authorize operations in Candadian MNPS.

C. For the part 121 and 135 certificate holders, Canadian MNPS airspace approvals are granted by issuance of B039 and adding that area of en route operations to OpSpec B050.

73. - 80. - RESERVED.

[PAGES 3-83 THROUGH 3-88 RESERVED]